Elytra, Tokyo, **34** (1): 199–205, May 20, 2006

Studies on the Genus *Lipromorpha* (Alticinae, Chrysomelidae, Coleoptera) in Japan, with Description of a New Species

Yoshiaki KOMIYA

Mukôgaoka 1–6–4, Bunkyô-ku, Tokyo, 113–0023 Japan

Abstract The alticine chrysomelid beetle known from Amami-Ôshima Is., Tokunoshima Is. and Okinawa-Hontô Is. under the name of *Lipromorpha difficilis loochooana* (CHÛJÔ, 1961) is a good species distinct from *L. difficilis* (CHEN, 1934), and is raised to a species rank, *Lipromorpha loochooana* (CHÛJÔ, 1961). In addition a second member of the genus is described as a new species *Lipromorpha sakishimana* Y. KOMIYA, sp. nov. from Miyakojima Is., Ishigakijima Is. and Taketomijima Is., southern Japan. A key to the Japanese species of the genus *Lipromorpha* is provided.

The sole representative of the genus *Lipromorpha* CHÛJÔ et KIMOTO, 1960 in Japan has been *L. difficilis loochooana* CHÛJÔ, 1961, from the Ryukyu Archipelago. It was first described from Amami-Ôshima Is. as a subspecies of *L. difficilis* CHEN, 1934, then synonymized with it by KIMOTO (1965). By comparing specimens from the Ryukyu population carefully with those of Taiwan, the author came to the conclusion that the former is clearly separable from the latter and should be regarded as a good species. In addition, a second member of the genus was found in the southern Ryukyu Archipelago, and is described as a new species in the present paper.

Lipromorpha loochooana CHÛJÔ, 1961, stat. nov.

(Figs. 1 & 2)

Lipromorpha difficilis loochooana CHÛJÔ, 1961, Ent. Lab., Univ. Osaka Pref., Publ., (6): 89 (Asani, Ikari and Kominato in Amami-Ôshima Is.).

Lipromorpha difficilis: KIMOTO, 1965, J. Fac. Agric. Kyushu Univ., **13**: 419 (Amami-ôshima Is.), synonymized. —— KIMOTO & GRESSITT, 1966, Pacif. Ins., **8**: 542 (Santaro-tôge and Naze in Amami-Ôshima Is., Mikyô in Tokunoshima Is., Yona in Okinawa-Hontô Is.). —— KIMOTO & TAKIZAWA, 1994, Leaf Beetles (Chrysomelidae) of Japan, p. 321 (Ryukyu Is., S. China, Taiwan, Vietnam).

As pointed out by CHÛJÔ (1961) in his original description, the Japanese population is clearly distinguishable from the Taiwanese. The main points of discrimination are as follows:

1. Body coloration is pitchy brown with antennae, tibiae and tarsi much paler. In contrast, the Taiwanese population is light yellowish brown with head, pronotum and basal portion of elytra darker.

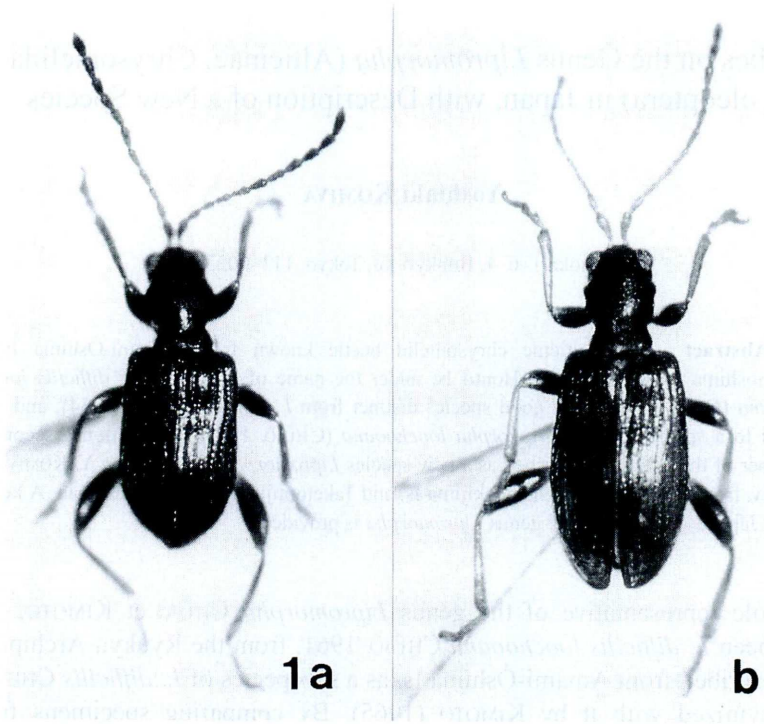

Fig. 1. Habitus of *Lipromorpha loochooana* CHÛJÔ, 1961; a: male, b: female.

2. Frons is evenly convex without any depression in the middle. In Taiwanese specimens, frons has a shallow but wide depression with another small one in the middle of occiput.

3. Antenna is distinctly shorter than the body length, but in *L. difficilis* from Taiwan, antenna is almost equal to the body length.

4. Pronotum has a deep constriction behind the middle without any additional furrow. In the latter species, the pronotum also has a deep constriction behind the middle, but with an additional shallow and narrow sulcus between the middle and the anterior margin, which is more distinct in the lateral portion of the pronotum.

5. Elytra are covered with regular rows of punctures, each interstice of punctate-striae is a little raised, smooth and shining with a row of yellowish hairs. In the Taiwanese population, each interstice of punctate-striae is almost flat and finely granulated in the posterior portion with a row of yellowish hairs.

6. Male genitalia are different between two populations (Fig. 2). In *L. loochooana*, the aedeagus is uniformly arched dorsally in lateral view, with terminal process short and evenly rounded apically (Fig. 2). In *L. difficilis,* the aedeagus is almost straight in lateral view, with terminal process narrow and sharp, truncated apically.

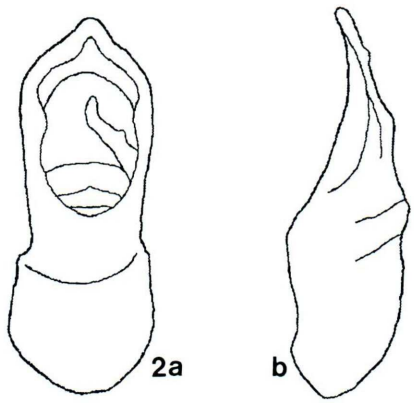

Fig. 2. Male genitalia of *Lipromorpha loochooana* CHÛJÔ, 1961; a: dorsal view, b: lateral view.

Body length: male, 2.00±0.14 (n=31) mm, female, 2.33±0.15 (n=38) mm.

Body breadth: male, 0.81±0.05 (n=31) mm, female, 0.95±0.07 (n=38) mm.

Specimens examined. Okinawa-Hontô Is., Okinawa Pref., Japan: 1♀, Nakijin-jôshi (89 m alt.), Nakijin-son, 11–IV–2005, Y. KOMIYA lgt.; 1♀, Yona (18 m alt.), Kunigami-son, 12–IV–2005, Y. KOMIYA lgt.; 1♀, Yona, Kunigami-son, 1~3–V–1976, H. TAKIZAWA lgt.; 1♀, Hedo, Kunigami-son, 5–IV–1979, H. TAKIZAWA lgt. Amami-Ôshima Is., Kagoshima Pref., Japan; 26♂♂, 26♀♀, Kuninao (31 m alt.), Yamato-son, 13–IV–2005, Y. KOMIYA lgt.; 1♂, 2♀♀, Sumiyôgawa Power Station (31 m alt.), Sumiyô-son, 14–IV–2005, Y. KOMIYA lgt.; 1♂, 1♀, Sumiyôgawa Dam Road (133 m alt.), Sumiyô-son, 14–IV–2005, Y. KOMIYA lgt.; 1♂, Sumiyôgawa Dam Road, Sumiyô-son, 19–IV–2005, Y. KOMIYA lgt.; 1♂, 2♀♀, Chinase (51 m alt.), Naze-shi, 17–IV–2005, Y. KOMIYA lgt.; 1♂, 3♀♀, Mt. Yuidake, Setouchi-chô, 15–VII–1962, Y. KOMIYA lgt.; 4♂♂, 7♀♀, Amami-Ôshima Is., 25–IV~5–V–1967, H. TAKIZAWA lgt.; 1♂, Nishinakama, Sumiyô-son, 2~6–VI–1970, H. MAKIHARA lgt.

Distribution. Ryukyu Archipelago (Amami-Ôshima Is., Tokunoshima Is. and Okinawa-Hontô Is.), Kagoshima and Okinawa Prefs., Japan.

Adult food plant. *Ampelopsis heterophylla* SIEB. et ZUCC.

Lipromorpha sakishimana sp. nov.

(Figs. 3 & 4)

Male. Body oblong, parallel-sided. Totally light yellowish brown with abdominal sternites, except for the last, a little darker.

Frons convex, anterior portion slightly depressed and granulated, separating vertically situated frontal tubercles, and furnished sparsely with long hairs; occiput evenly convex, anterior portion weakly wrinkled transversely and the posterior almost smooth and shining.

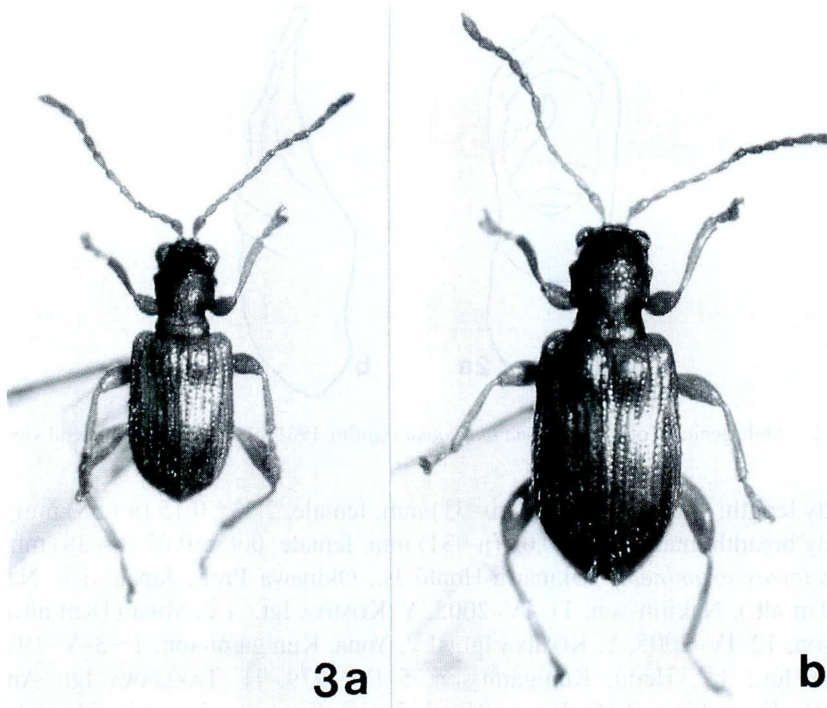

Fig. 3. Habitus of *Lipromorpha sakishimana* Y. KOMIYA, sp. nov.; a: holotype, male, b: paratype, female.

Antennae slender, equal to the body in length; first segment robust, longest, and club-shaped, second and third subequal to each other in length, third slightly thinner, from fourth to tenth a little longer than the preceding two, almost equal to each other in length but distinctly thicker from eighth onward, eleventh second longest, its apex pointed.

Pronotum subcylindrical, as long as wide [pronotal ratio=breadth / length: male, 1.016±0.032 (n=122); female, 1.048±0.035 (n=73)], widest at anterior corner, which is protrudent laterally with setigerous pore at its antero-lateral end, strongly constricted behind middle [constriction ratio=maximal breadth / minimal breadth: male, 1.477±0.055 (n=122); female, 1.438±0.083 (n=73)], constriction bisinuated with a small fovea in the median portion; surface minutely shagreened throughout, bearing small punctures sparsely in anterior half but more densely in basal, and furnished with scattered long hairs.

Scutellum triangular with pointed apex; surface smooth with a few hairs along posterior margin.

Elytra elongate, distinctly wider than pronotum at base, slightly widened posteriorly; surface convex with broad transverse depression before middle, covered with strong punctures arranged in regular longitudinal rows, each interstice of punctate-

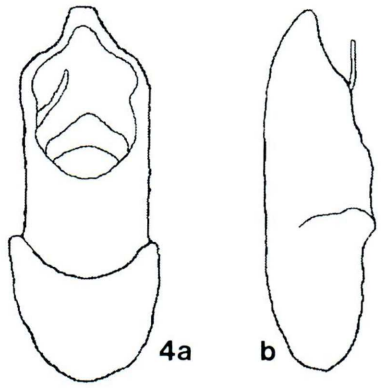

Fig. 4. Male genitalia of *Lipromorpha sakishimana* Y. KOMIYA, sp. nov.; a: dorsal view, b: lateral view.

striae shining and furnished with a row of yellowish hairs.

Hind femur incrassate.

Last visible abdominal sternite trilobed, with a longitudinal broad depression in the middle.

Aedeagus subcylindrical, straight and parallel-sided, with terminal process triangular with its apex narrowly truncated (Fig. 4).

Female. Antennae distinctly shorter than body length. Last abdominal sternite entire with broadly truncated apex.

Body length: male, 1.98±0.11 (n=118) mm, female, 2.33±0.17 (n=73) mm.

Body breadth: male, 0.83±0.06 (n=118) mm, female, 0.98±0.07 (n=73) mm.

Holotype: ♂, Miyakojima Is., Kadekari (35 m alt.), Miyakojima-shi (former Gusukube-chô, Miyako-gun), Okinawa Pref., Japan, 4–IV–2005, Y. KOMIYA lgt.

Paratypes: Miyakojima Is., Miyakojima-shi, Okinawa Pref., Japan: 74♂♂, 25♀♀, the same data as the holotype; 14♂♂, 10♀♀, the same locality as the holotype, 7–IV–2005, Y. KOMIYA lgt.; 4♂♂, 6♀♀, Tomori (55 m alt.), Gusukube-chô Miyako-gun, 4–IV–2005, Y. KOMIYA lgt.; 4♂♂, 4♀♀, Tomori, Gusukube-chô Miyako-gun, 7–IV–2005, Y. KOMIYA lgt.; 3♀♀, Tomori, Gusukube-chô Miyako-gun, 17–VI–1975, S. IMASAKA lgt.; 1♀, Ônosanrin (39 m alt.), Hirara-shi, 5–IV–2005, Y. KOMIYA lgt.; 8♂♂, 6♀♀, Nishisatosoe (119 m alt.), Gusukube-chô Miyako-gun, 4–IV–2005, Y. KOMIYA lgt. Ishigakijima Is., Ishigaki-shi, Okinawa Pref., Japan: 4♂♂, 3♀♀, Mt. Bannadake (209 m alt.), 3–IV–2005, Y. KOMIYA lgt.; 1♂, Sukuji Beach, Kabira, Ishigaki-shi, 2–IV–2005, Y. KOMIYA lgt. Taketomijima Is., Taketomi-chô Yaeyama-gun, Okinawa Pref., Japan: 10♂♂, 17♀♀, Higashiyashiki (17 m alt.), Taketomi-chô 30–III–2005, Y. KOMIYA lgt.

The type series is tentatively housed in the author's collection, but will be deposited in the most appropriate institution together with the whole collection of the author.

Distribution. Southern Ryukyu Archipelago (Miyakojima Is., Ishigakijima Is.

and Taketomijima Is.), Okinawa Pref., Japan.

Adult food plant. *Ampelopsis heterophylla* SIEB et ZUCC. The beetles seem to prefer host vines creeping on the ground to those hanging from other trees or bush.

Key to the Japanese Species of the Genus *Lipromorpha*

1. Pronotum distinctly broader than long (pronotal ratio: 1.10–1.30) with a weak or distinct constriction behind middle (constriction ratio: 1.08–1.30). . . . . Genus *Pseudoliprus* CHÛJÔ et KIMOTO, 1960
— Pronotum nearly as broad as long (pronotal ratio: 0.99–1.03) with a strong constriction behind middle (constriction ratio: 1.41–1.47). . . . . Genus *Lipromorpha* CHÛJÔ et KIMOTO, 1960 2
2. Upper surface totally light yellowish brown without any darkened area. Pronotum very minutely shagreened throughout, bearing small punctures sparsely in anterior half but more densely in basal, and furnished with scattered long hairs (Ryukyu Archipelago, Okinawa Pref., Japan; Miyakojima Is., Ishigakijima Is. and Taketomijima Is.). . . . . *Lipromorpha sakishimana* Y. KOMIYA, sp. nov.
— Upper surface entirely pitchy brown or light yellowish brown with head, pronotum and basal portion of elytra distinctly darker. Pronotum very strongly shagreened throughout, bearing large punctures sparsely in anterior half but more densely in basal, and furnished with scattered long hairs. 3
3. Body coloration pitchy brown with antennae, tibiae and tarsi much paler. Antennae distinctly shorter than the body length. Pronotum with a strong constriction behind the middle without any additional furrow (Ryukyu Archipelago, Okinawa and Kagoshima Prefs., Japan; Amami-Ôshima Is., Tokunoshima Is. and Okinawa-Hontô Is.). . . . . *Lipromorpha loochooana* CHÛJÔ, 1961
— Body coloration light yellowish brown with head, pronotum and basal portion of elytra distinctly darker. Antennae almost equal to the body in length. Pronotum with a deep constriction behind the middle as well, but with an additional shallow and narrow sulcus between middle and anterior margin, which is more distinct in the lateral portion of pronotum (Vietnam, South China and Taiwan). . . . . *Lipromorpha difficilis* (CHEN, 1934)

Acknowledgement

The author expresses his hearty thanks to Dr. H. TAKIZAWA, Messrs. S. IMASAKA and M. MINAMI for materials.

要　　約

小宮義璋：日本産*Lipromorpha*属に関する研究，および1新種の記載．—— これまで南西諸島から記録されていた*Lipromorpha difficilis* (CHEN, 1934)を独立種と認め，*Lipromorpha loo-*

chooana CHÛJÔ, 1961 リュウキュウクビボソトビハムシとした．さらに南西諸島南部（宮古島，石垣島および竹富島）より得られた本属の種を新種と認め，*Lipromorpha sakishimana* sp. nov.サキシマクビボソトビハムシ（新種新称）として記載した．またこの種を含む日本産*Lipromorpha* リュウキュウクビボソトビハムシ属の検索表を作成した．

References

CHEN, S. H., 1934. Revision of the Halticinae (Col. Chrysomelidae) of Yunnan and Tonkin. *Sinensia*, **5**: 225–416.

CHÛJÔ, M., 1961. Chrysomelid-beetles of Loochoo Archipelago (IV). *Publ. ent. Lab., Univ. Osaka Pref.*, (6): 83–91.

——— & S. KIMOTO, 1960. Description of three new genera and a new species of chrysomelid-beetles from Japan, with some notes on the Japanese species. *Niponius, Takamatsu*, **1** (4): 1–10.

KIMOTO, S., 1965. The Chrysomelidae of Japan and the Ryukyu Islands. VIII Subfamily Alticinae I. *Kyushu Univ. J. Fac. Agric.*, **13**: 401–429.

——— & J. L. GRESSITT, 1966. The Chrysomelidae of the Ryukyu Archipalago. *Pacif. Ins., Honolulu*, **8**: 467–577.

——— & H. TAKIZAWA, 1994. Leaf Beetles (Chrysomelidae) of Japan. 539 pp. Tokai Univ. Press, Tokyo.

Elytra, Tokyo, **34** (1): 205–206, May 20, 2006

Two Lines of Evidence of Allotrophy in *Plateumaris sericea* (LINNAEUS, 1761) (Coleoptera, Chrysomelidae, Donaciinae) in Japan

Yoshiaki KOMIYA

Mukôgaoka 1–6–4, Bunkyô-ku, Tokyo, 113–0023 Japan

In the Tanbara Shitsugen Marsh (about 1,200 m above sea-level), Gunma-ken, Central Japan, a donaciine beetle, *Plateumaris (Euplateumaris) sericea* (LINNAEUS, 1761) is first found about two weeks after disappearance of covering snow, usually in the middle of May, and one adult beetle is alive at least for six to seven weeks after its appearance, as confirmed by marking experiment. They are observed to swarm on many kinds of flowers, feeding on their nectar. The main nectar source is three species of sedges. The flowering season of these sedges is usually from the middle of May to the middle of June. From the end of June onward, few flowers are available for nectar source for the beetles. *Veratrum stamineum* is one of the few flowering plants in this season, though the *Plateumaris* beetles are never found on the flowers of this species, but many on the leaves. They are feeding on the secretion of aphids, not directly from